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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/088,275	03/14/2002	Takashi Tagami	NSG-210US	8779
23122	7590	04/09/2004	EXAMINER	
RATNERPRESTIA P O BOX 980 VALLEY FORGE, PA 19482-0980			KANG, DONGHEE	
			ART UNIT	PAPER NUMBER
			2811	

DATE MAILED: 04/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/088,275	Applicant(s) TAGAMI ET AL.	
	Examiner Donghee Kang	Art Unit 2811	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 10-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims **1-5** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwabara et al. (JP 63-153407) in view of Russell et al. (US 5,528,071)

Re claims **1-4**, Kuwabara et al. teach a light-receiving element for detecting a light intensity, comprising (Fig.7):

a semiconductor layer (I-type); a first conductivity type of resistor layer (p-type) provided on the top surface of the semiconductor layer; a second conductivity type (n-type), opposite to the first conductivity type, of substrate provided on the bottom surface of the semiconductor layer; and at least one pair of opposing electrode (42 A & B), provided on the resistor layer, wherein the pair of opposing electrodes are configured to provide first and second signals indicative of a position of the incident light on the resistor layers.

Kuwabara et al. do not explicitly teach that the semiconductor layer, p-type layer, and n-type layer comprise InGaAs, InP and InP, respectively. However, Russell et al. teach in fig.2 the photodetector having n-type InP, i-InGaAs and p-type InP. Therefore, it would have been obvious to one of ordinary skill in the art to form the photodetector using

InGaAs & InP material taught by Russel, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as matter of obvious design choice. In re Leshin, 125 USPQ 416.

Re claim 5, Kuwabara et al. do not expressly teach the light-receiving element is operated in N time-divisioned timing matched to the impinging timing of respective demultiplexing lights. However, it is operation function rather than device structure. Claims directed to apparatus must be distinguished from the prior art in the terms of structure rather than function. In re Danly, 263 F. 2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). "[A]pparatus claims cover what a device is, not what a device does." (emphasis in original) Hewlett-Packard Co.v. Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990).

A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

3. Claims 6 & 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nitta et al. (US 6,334,014) in view of Kuwabara et al. & Russell et al. (US 5,528,071).

Nitta et al. teach a photodetector for detecting a light intensity for each of lights demultiplexed from an incident light, comprising (Fig.1A):

N light-receiving elements (15), these light-receiving elements being arrayed on one dimension. Nitta et al. do not expressly teach the light-receiving elements having structure as claimed in claims 1-4. However, Kuwabara et al. as modified by Russell

teach the PIN photodiode light-receiving element (see statement of rejection for claims 1-4) having the structure described in claims 1-4. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to use light-receiving elements as taught by Kuwabara & Russell in Nitta's device, since it has been held to be within the general skill of a worker in the art to select a well known PIN type photodiode to detect light.

4. Claims **7-8** are rejected under 35 U.S.C. 103(a) as being unpatentable over Shigeru (JP 54-113384) in view of Kuwabara et al. (JP 63-153407) & Russell et al. (US 5,528,071).

Shigeru teaches a photodetector for detecting a light intensity for each of lights demultiplexed from an incident light, comprising (Fig.4):

a first photodetecting means for detecting a barycenter of a light-intensity of each of the demultiplexed lights, the first photodetecting means including n light-receiving elements arrayed in one dimension; and

a second photodetecting means for detecting a barycenter of a light-intensity of each of the demultiplexed lights, the second photodetecting means including n light-receiving elements arrayed in one dimension.

Shigeru does not expressly teach the light-receiving elements having structure as claimed in claims 1-4. However, Kuwabara et al. as modified by Russell et al. teach the PIN photodiode light-receiving element (see statement of rejection for claims 1-4) having the structure described in claims 1-4. Therefore it would have been obvious to

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one of ordinary skill in the art at the time the invention was made to use light-receiving elements as taught by Kuwabara as modified by Russell in Shigeru's device, since it has been held to be within the general skill of a worker in the art to select a well known PIN type photodiode to detect light.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donghee Kang whose telephone number is 571-272-1656. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C Lee can be reached on 571-272-1732. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Donghee Kang
Examiner
Art Unit 2811

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